



Take it *All* Off!

The truth behind stripping vinyl.

BY DAVE KING



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number of major manufacturers to help develop new and better technologies. In addition to writing for Digital Graphics Magazine, Dave is a frequent speaker at The Sign Business & Digital Graphics Show. He has also produced InkJet Printing, Laminating and Mounting, an educational video for the Video Classroom series. For more information call 1-800-691-8047.

When I was asked to write an article about *stripping*, I figured I'd get to spend several investigative hours in a smoky strip club to get the true scoop. Then my editor said, "Not *clothes* — it's about stripping *vinyl!*" Nevertheless, I agreed, knowing it wouldn't be quite as much fun.

CRUCIAL QUESTIONS

And let's face it, *fun* never comes to mind when considering the process of stripping vinyl, because clearly this is not a *fun* job. When a customer asks you to remove vinyl from their vehicle you are presented with a lot of unknown parameters, and in many cases the answers you want are not always available to you. Here are a few of the crucial questions that I feel need to be asked:

- *What type of vinyl are we dealing with?* In most cases the customer will not know.
- *How long has the vinyl been on the vehicle?* Most customers are able to answer this one. Let them know that the longer the vinyl has been there, the longer it will take you to remove it.
- *Who installed the vinyl?* Sometimes you can call the installer of the vinyl and you can then learn the type of vinyl used.
- *What are you doing with the vehicle after we remove the vinyl?* This is important because if you are stripping a wrapped vehicle and it will be returned to a leasing company, it should be *very clean* and have no visible marks on it. If the vehicle is being wrapped again, then cosmetics don't make a lot of difference since you will be covering it again.

CALENDERED VS CAST

In our experience, most vinyl that is not intended for outdoor use is easy to remove and does not tend to leave much residue behind, but a lot of the vinyl used on vehicles presents a very different story.

Most people can't tell good premium *cast* vinyl from cheap *calendered* vinyl after it has been installed on the vehicle. The colors look the same, the vinyl feels the same and in the first six months all the graphics (regardless of vinyl type) look great. The problem is that most calendered vinyl comes with a *permanent* adhesive and is not designed to be used outdoors for more than a year. Cast vinyl, on the other hand, is specifically designed to be used outdoors for five-plus years, and is also designed to be *removed* within the terms of the warranty.

So you might rightly ask, *Why would anyone use calendered vinyl on a vehicle?* — and my answer is, *They shouldn't!* But the truth is that a 24" x 150' roll of calendered vinyl costs approximately \$87, and the same-size roll of cast vinyl costs approximately \$261. Clearly,



Even the most awesome looking vinyl graphic needs to be removed eventually. Successful vinyl removal depends on a number of factors, including how long the vinyl has been on the vehicle and what kind of vinyl was used.



As you can see, when we started stripping this step van the paint was just falling off. This left us with a huge problem. The client needed the trucks back on the road and didn't want to spend the time and money to repaint them.

We decided to wrap the back doors with an Avery MPI1005 digital film. This film has a gray barrier coat that allows us to cover any color with no bleed-through. After cleaning off the old vinyl, we wrapped the new white vinyl over the old and then applied the cut vinyl over the white. When the trucks left our shop they looked great! The customer was very happy because we met their deadline and kept the whole job in the budget.

this would make a huge difference in your bottom line. If you had to decal, say, four trucks with about 400 square-feet of vinyl per truck, it would cost you \$464 to use calendered vs \$1,552 to use cast. But I digress. Let's discuss how to get the vinyl off.

HEAT IS YOUR FRIEND — HOWEVER...

When it comes to removing vinyl, heat is your friend — especially if you are doing it by hand. Heat will cause the adhesive to loosen up and make the removal easier, however, caution is advised. The key is to heat the vehicle without burning the film — or the vehicle.

Heat the vehicle to the correct temperature (between 140-160 degrees), but *not too hot!* For most of our removals we use a big 500,000-BTU acetylene torch that we like to call *Puff* (like Puff the Magic Dragon). We use the torch to heat the vehicle body, then give the vinyl a few seconds to start to cool down before pulling off the vinyl.

It's important to take this cool-down step because you don't want to burn your fingers — and if the vinyl is too hot it will often leave too much adhesive behind. We heat a small area at a time — just a large enough

area that we can work on until the body of the vehicle starts to cool down.

Caution: Never use your acetylene torch outdoors to heat up a vehicle for vinyl removal! If you use a high BTU-rated torch (like ours) outdoors, you could (and probably will) lose control of the heat and possibly burn the vehicle or damage the finish of the body. Other parts of a vehicle to be very careful of are plastic bumpers, light lenses, mirrors, door handles, glass, and other non-metal parts of the car. Also watch out for vehicles made with plastic body panels, like Saturns. *The heat will melt the body parts* and likely cause them to disfigure. This mistake is *very expensive!*

We once stripped a custom van and used a little too much heat on the plastic front bumper. It cost us more than \$1,200 in new body parts — the removal job only paid \$350. *Big mistake!*

Here are a couple more *do's* and *don'ts* for stripping with a flame torch:

Do not use flame indoors at customer locations. They will *freak out!* When your customer sees a four-foot-long flame inside their building they will likely have a fit and then throw you out. For these removals you must use an *electric* heat gun and plan to be there for a long time.

Keep flame away from combustible materials. Okay, that's common sense, but it needs to be said. Keep flame away from the gas tank and gas cap of any vehicle.

The heat method is not ideal for small cut-vinyl pieces. The problem is that as soon as you get a grip on the cut vinyl letter to be removed, you've already come to the end of the piece. Each individual piece of the cut vinyl is like a whole new removal. Plus, you can lose your fingernails after doing a few hundred vinyl letters. The large torch works best for stripping vehicle wraps. But don't worry, there are other methods.

THE POWER WHEEL

There are two power-wheel vinyl removal systems that I know of. The MBX Vinyl Zapper is made in Germany by a company called Monti Werkzeuge GmbH (available in the U.S. from Avery Dennison). Also, 3M sells ScotchBrite Vinyl Remover Discs. The 3M disc needs to be attached to a high-speed drill or pneumatic buffing or grinding system. The MBX tool comes in two versions: a pneumatic (air-driven) and an electric one. The pneumatic version is lighter in weight, but is not as portable.



When it comes to removing vinyl, heat is your friend. Heat from an acetylene torch can be used to soften the adhesive making removal easier. However, *extreme caution* is advised. The key is to heat the vehicle without burning the film — or the vehicle.



To remove adhesive residue we use a number of chemicals, including a citrus-based stripper called Rapid Remover that will not hurt the paint or plastic parts of the vehicle. A much stronger agent, called Xylol Xylene, can be used, but it is more dangerous because it is flammable and the vapors can be harmful.

Last year I was given a demonstration of the Vinyl Zapper at the **The Sign Business & Digital Graphics Show** and I could not believe what I was seeing. I watched as 18-year-old reflective vinyl was stripped from a sign in seconds — with no leftover residue. Very few things impress me in this industry but this machine *blew me away*.

The true test came when 17 trucks came in — 15 Grumman step vans, and two 16-foot straight trucks. Each truck had more than 200 individual letters to be removed and no one knew whether the film on the trucks was the *good stuff* or the *cheap stuff*. I gave a demo with the Vinyl Zapper to my installers and soon the vinyl was history. They stripped those 17 vehicles in *half* the time that they normally would have. Needless to say, I was happy.

Two people stripped and applied new vinyl to each truck in 2.5 hours. In the past it took about 4.5 hours per truck. I saved more than \$700 in labor alone on this job.

The Vinyl Zapper wheels cost around \$25 per wheel, and two wheels took care of all 17 trucks. I have also used 3M's ScotchBrite Vinyl Remover Discs and they work well too, if you have a high-speed motor driving it.

RESIDUE/ADHESIVE REMOVAL

When you strip a vehicle you could end up with adhesive residue — this is normal and to be expected. So, what chemical can you use that will not kill your employees, yet remove the adhesive quickly and not damage the vehicle — and still not cost you a fortune. That's a tall order! The answer is... lots of them.

We use a number of chemicals, the first one (and safest, in my opinion) is called Rapid Remover, from Rapid Tac Inc. It is a citrus-based stripper that works well on vinyl adhesives and will not hurt the paint or plastic parts of the vehicle. We use Rapid Remover for all of our passenger vehicle jobs.

For commercial trailers that are powder coated, we use a product called Xylol Xylene made by Clean-Strip. This is more dangerous because it is flammable and the vapors can be harmful, but it works much faster than Rapid Remover.

When we have to remove adhesive from graphics (wrapped vehicles that also have cut vinyl or wall graphics that need to have vinyl removed from vinyl) we use a product called Goof Off. This is basically kerosene in a very expensive can, but it works *great*. You can sometimes use WD 40 or simply alcohol. I have seen some people even use

peanut butter (no thank you).

My advice is to use the mildest chemical first, and work your way up the scale. Always test chemicals in a small area that is not easily noticeable in case you find the chemical damages the finish. Please note that all strippers have a smell and can cause people to react to the smell, so you should always use them in a well-ventilated area (not vented into other parts of the building).

STRIPPING DAMAGE

Stripping damage is a very difficult topic to discuss with clients. If you are telling customers about damage *after the fact*, that's not good. It puts you in an awkward position. Before stripping any vehicle you should give your client a disclaimer clearly stating the risks involved, especially with regard to the potential for paint damage. Your statement should absolve you of responsibility for paint damage. Don't begin work until you get them to sign it.

By doing this you have made your customer aware that any pre-existing conditions — like body damage or body modification — could have a direct effect on the vinyl being removed. The truth is that most vehicle manufacturers' paint jobs are very solid and paint does not come off when



We've had great success using the MBX Vinyl Zapper. It's ideal for removing cut vinyl letters. It works quickly and doesn't leave an adhesive residue behind.

stripping, but there are exceptions, and you need to cover yourself.

We have stripped more than 400 vehicles over the years, and 95 percent of the failures (paint removals) were a result of a vehicle being fixed by a body shop (before the vinyl was applied) and the paint was not applied properly.

To bring a vehicle's finish back to life after removing cut vinyl, you can have an auto detailer buff the vehicle with a *cut polish*. In most cases the vehicle will look 100 percent better.

HOW MUCH TO CHARGE

Ah, the million dollar question. I wish I could tell you that you can charge \$XX for all your vinyl removal jobs and you'd be all set. My rule is that for all wrap removals we charge \$2 per square foot for Avery or 3M wraps (provided they used the 5-year cast vinyl from Avery/3M), and \$4 per square foot for all other vinyl. For cut vinyl removal we charge time and materials. We give the customer an estimate, based on the amount of vinyl to be removed and the type of vehicle.

As for procedures, for all cut vinyl removal jobs on trailers and cars I would first use heat, and then, if this is too slow, I would move to the MBX Vinyl Zapper tool. I find that we can strip about 35-50 square feet per hour with the MBX tool. If the truck has 400 square feet of cut vinyl letters, I would estimate that this job would take about 12 man-hours or \$720 (our rate is \$60 per man hour). I would love to just wrap over the cut vinyl, but I don't because ghosting of the old letters behind the wrap can look real bad.

ADVICE FOR VINYL PROVIDERS

The film you are using to wrap or letter vehicles should be the best. If the film comes with a manufacturer's warranty of five-plus years, then the film is the *good stuff*



Typically, when you strip vinyl from a vehicle you often end up with adhesive residue. This is normal and to be expected. Citrus-based products, such as Rapid Remover from Rapid Tac, are effective and will not hurt the paint or plastic parts of the vehicle.

and I recommend you use it. If the film does *not* come with a warranty, or the warranty is vague, then don't use it. There are so many great choices of films on the

market today that come with a solid warranty, there is no reason to use a questionable film. Go for the *good stuff*. It won't come back and bite you later.



Calendered vinyl, though far less expensive than cast, comes with a permanent adhesive and is not designed to be used outdoors for more than a year. Cast vinyl is specifically designed to be used outdoors for five-plus years, and is also designed to be removed within the terms of the warranty. **DG**

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